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EXAMINER	
LEE, RICHARD J	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,778	OBRADOR, PERE	
	Examiner	Art Unit	
	Richard Lee	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *12 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9,11-17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9,11-17,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 17, 19, and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 17 sets for a computer readable medium storing instructions for concurrently processing digital video frames and high resolution still images in burst mode as described in the preamble, and thereafter recites "instructions for acquiring regular size video frames, ... instructions for upsampling the reduced size video frames ... ", essentially a series of steps to be performed on a computer and thereby manipulating an abstract idea without any limitation to a practical application that produces a useful, concrete, and tangible result as required to fall within the statutory classes set forth in 35 U.S.C. 101. Since dependent claims 19 and 20 are directed to further computational limitations, claims 17, 19, and 20 as a whole for reasons above do not fall within the statutory classes set forth in 35 U.S.C. 101.

Suggestion: at claim 17, line 1, insert "computer executable" before "instructions" in order to overcome the 35 U.S.C. 101 rejection.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 15, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyman of record (US 2003/0112347) in view of Voss et al of record (US 2003/0147640) and Ueno et al of record (5,436,665).

Wyman discloses a method and apparatus for producing still video images using electronic motion video apparatus as shown in Figures 1-3, and substantially the same joint video and still image pipeline for a video camera, method for concurrently processing digital video frames and high resolution still images, and computer readable medium providing instructions for concurrently processing digital video frames and high resolution images (see page 1, sections [0007], [0008], page 3, section [0028]), comprising substantially the same one or more image sensors (i.e., 103 of Figure 2) capable of concurrently acquiring regular size video frames and high resolution still image frames (see page 3, section [0028]); a sensor controller capable of storing the regular size video frames and the high resolution still image frames into a memory (see page 3, section [0028], page 7, section [0059] and 204 of Figure 2); one or more processors (see page 3, section [0028], and Figure 2) capable of concurrently processing the reduced size video frames and the high resolution still image frames acquired, wherein the reduced size video frames are processed using a video pipeline, and the high resolution still image frames are processed using a high resolution still image pipeline, and wherein the high resolution still image frames are processed concurrently with the reduced size video frames, wherein the processing the high resolution still image frames includes processing the high resolution still image frames in real time (i.e., the continuous saving of video on a motion video medium represents real time processing of the high resolution image frames, see page 1, section [0008]); compressing the reduced size video frames and the high resolution still image frames (see page 5, section [0042]);

wherein the processors are selected from a microprocessor, an application specific integrated circuit (ASIC), and a digital signal processor (i.e., 201 of Figure 2); and downsampling the high resolution still image frames, wherein the downsampled still image frames have same frame sizes as the upsampled video frames (i.e., the full resolution 3M pixel viewable frame is converted to a low resolution motion video frame of the same size, see page 3, section [0031]).

Wyman does not particularly disclose the followings:

(a) concurrently processing digital video frames and high resolution still images in burst mode, concurrently acquiring regular size video frames and high resolution still image frames in burst mode, and storing the regular size video frames and the high resolution still image frames acquired during the burst mode into a memory as claimed in claims 1, 9, and 17;

(b) wherein the regular size video frames are downsampled into reduced size video frames, the reduced size frames have frame sizes smaller than the regular size video frames as claimed in claims 1, 9, and 17; and

(c) upsampling the reduced video frames using motion estimation and information from the high resolution still image frames; wherein blocks in the downsampled still image frames form a block pool; and instructions for comparing blocks in the block pool with corresponding blocks in the upsampled video frames until a best match is found, and copying the best match block into the corresponding blocks in the upsampled video frames as claimed in claims 1, 3, 4, 9, 11, 12, 17, 19, and 20.

Regarding (a), Voss et al discloses a system and method for capturing and embedding high resolution still image data into a video data stream as shown in Figures 1, 2A, 2B, and 4, and teaches the conventional processing and acquiring digital video frames/regular size video

frames and high resolution still image frames in burst mode, and storing the regular size video frames and the high resolution still image frames acquired during the burst mode into a memory (see page 2, sections [0022], [0024], page 3, section [0036], [0037], page 4, section [0039]). Therefore, it would have been obvious to one of ordinary skill in the art, having the Wyman and Voss et al references in front of him/her and the general knowledge of burst mode within digital still and video cameras, would have had no difficulty in providing the burst mode features in processing and storing video frames and high resolution still images concurrently as taught by Voss et al for the joint video and still image pipeline system of Wyman for the same well known capturing of high resolution still images while storing the video so that both the still image and video images are captured concurrently without losing any information purposes as claimed.

Regarding (b) and (c), Ueno et al discloses a motion picture coding apparatus as shown in Figure 1, and teaches the conventional use of an upsampler 35 of Figure 1 for upsampling reduced video frames using motion estimation (i.e., 104 of Figure 1) and information from high resolution still image frames (see Figure 4), and downsampling regular size video frames into reduced size video frames, wherein the reduced size frames have frame sizes smaller than the regular size video frames (i.e., as provided by 29, 102 of Figure 1, see Figures 2, 3A, and column 8, lines 28-45). Ueno et al further shows substantially the same if not the same comparing blocks in the block pool (i.e., as input to 35 of Figure 1) with corresponding blocks in the upsampled video frames until a best match is found, and copying the best match block into the corresponding block in the upsampled video frames (i.e., as provided by the predictor 104 of Figures 1 and 4). Therefore, it would have been obvious to one of ordinary skill in the art, having the Wyman, Voss et al, and Ueno et al references in front of him/her and the general

knowledge of video motion estimations, would have had no difficulty in providing the upsampling of reduced size video frames using motion estimation and information from the high resolution still image frames, downsampling of regular size video frames into reduced size frames wherein the reduced size frames have frame sizes smaller than the regular size video frames, and block matching of upsampled video frames for providing the best match all as taught by Ueno et al as part of the video compression process within Wyman for the same well known compression of video for bandwidth reduction purposes as claimed.

5. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyman, Voss et al, and Ueno et al as applied to claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 15, 17, 19, and 20 in the above paragraph (4), and further in view of Adolph et al of record (6,081,295).

The combination of Wyman, Voss et al, and Ueno et al discloses substantially the same joint video and still image pipeline for a video camera, method for concurrently processing digital video frames and high resolution still images, and computer readable medium providing instructions for concurrently processing digital video frames and high resolution images as above, but does not particularly disclose wherein the processing the reduced size video frames includes encoding the reduced size video frames into a standard format by a video transcoding agent as claimed in claims 5 and 13. The particular features of using a video transcoder for transcoding one video format to another type of video format, in general, is however old and well recognized in the art, as exemplified by the video transcoder of Adolph et al (see Figure 1, Abstract, column 1, lines 10-25, column 2, lines 47-65). Therefore, it would have been obvious to one of ordinary skill in the art, having the Wyman, Voss et al, Ueno et al, and Adolph et al references in front of him/her and the general knowledge of video transcoders, would have had

no difficulty in using the generic teachings of a video transcoder as provided by Adolph et al within the joint video and still image pipeline system of Wyman to thereby process the reduced size video frames by encoding the reduced size video frames into a standard format for the same well known video format conversion for compliance reasons as claimed.

6. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wyman, Ueno et al, and Voss et al as applied to claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 15, 17, 19, and 20 in the above paragraph (4), and further in view of Bittner et al of record (6,330,400).

The combination of Wyman, Ueno et al, and Voss et al discloses substantially the same joint video and still image pipeline for a video camera, method for concurrently processing digital video frames and high resolution still images, and computer readable medium providing instructions for concurrently processing digital video frames and high resolution images as above, further including downsampling the high resolution still image frames (see page 5, section [0042] of Wyman).

The combination of Wyman, Ueno et al, and Voss et al does not particularly disclose wherein the processing the high resolution still image frames comprises demosaicing the high resolution still image frames using complex demosaicing algorithms, and color correcting the high resolution still image frames using complex color correction algorithms as claimed in claims 7 and 16. However, Bittner et al teaches such technical features of image compression (i.e., downsampling) with demosaicing and color correction of images within an ASIC processor (see column 10, lines 35-49). Therefore, it would have been obvious to one of ordinary skill in the art, having the Wyman, Voss et al, Ueno et al, and Bittner et al references in front of him/her and the general knowledge of image manipulations and compressions, would have had no

difficulty in providing the demosaicing and color correction algorithms as taught by Bittner et al as part of the processing of the still and video images within joint video and still image pipeline system of Wyman for the same well known correction of color and providing a non distorted color image for viewing purposes as claimed.

7. Regarding the applicant arguments at pages 6-7 of the amendment filed June 12, 2006 concerning the 35 U.S.C 101 rejection on claims 17, 19, and 20, and specifically that "... when functional descriptive material is recorded on some computer readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized ... Applicants submit the claimed computer readable medium is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory ...", the Examiner wants to point out that the claims are still rejected for the following reasons. Though the applicant had changed the preamble of claim 17 to recite a "computer readable medium storing instructions" in an attempt to overcome the previous 35 U.S.C 101 rejection, it is however submitted that the mere storage of instructions within a computer readable medium does not define structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and therefore the claims are considered non-statutory. Without specific claim to computer executable instructions being stored within a computer readable medium, it is uncertain what type of instructions as claimed are being used to carry out the processings.

Regarding the applicant's arguments at pages 7-11 of the amendment filed June 12, 2006 concerning in general the traversal of the rejection of independent claims 1, 9, and 17 on the grounds of a lack of a prima facie case of obviousness and that "... Wyman and Voss et al use radically different methods for capturing high resolution images, and Applicant submits that one skilled in the art would not attempt to combine the references as suggested in the Office Action ... Voss teaches the suspension of normal video mode while still image data is captured and saved by a memory element. One skilled in the art would have no motivation to provide Wyman with a burst mode feature as taught by Ross et al, as such a combination would require substantial reconstruction and redesign of the elements of Wyman ...", the Examiner respectfully disagrees again. It is again submitted that the test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art, and in the present case the combination references as a whole renders obvious the claimed invention (see In re Sheckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 725 (CCPA 1968)). Though Wyman and Voss et al may disclose various features that are diverse or different from the present invention, both references deal with the capture of still and video data and as such it is hence considered obvious to combine. Specifically, it is submitted again that the burst mode features in processing and storing video frame and high resolution still images concurrently as taught by Voss et al may certainly be provided for the joint video and still image pipeline system, thereby providing the capturing of the high resolution still images while storing the video so that both the still image and video images are captured concurrently without losing any information.

Regarding the applicant's arguments at pages 11-12 of the amendment filed June 12, 2006 concerning that "... Wyman fails to disclose upsampling the reduced video frames using motion estimation and information from the high resolution still image frames ... Voss does not remedy the above noted deficiency of Wyman ... There is no teaching, suggestion or discussion that the apparatus of Ueno et al includes or is useful with high resolution still image frames ... Ueno et al cannot be said to teach or suggest upsampling the reduced size video frames using motion estimation and information from high resolution still image frames ...", the Examiner respectfully disagrees again. It is again submitted that Ueno et al clearly teaches the particular upsampling of video frames using motion estimation. The upsampled low resolution image as shown in Figure 4 of Ueno et al represents the upsampled reduced size video frames as claimed and the high resolution prediction selection circuit 131 as shown in Figure 4 of Ueno et al provides the information from the high resolution still image frames as claimed. Therefore, it is submitted again that upsampler 35 of Figure 1 of Ueno et al provides substantially the same if not the same upsampling of reduced video frames using motion estimation (i.e., 104 of Figure 1) and information from high resolution still image frames (i.e., as provided by 131 of Figure 4).

Regarding the applicant's arguments at page 13 of the amendment filed June 12, 2006 concerning in general the rejection of the dependent claims, such arguments have been addressed in the above.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

8/18/06